

Serial No. 08/472,876

Docket No. TRD 001 IA

IN THE CLAIMS

2. (AsAppealed) The apparatus as recited in claim 24, wherein said inducing coil is at least one of disposed around said receptor coil, wrapped around and at least partially overlapping said receptor coil, and wrapped around and mostly overlapping said receptor coil.

5. (AsAppealed) The apparatus as recited in claim 24, wherein said receptor coil and said inducing coil have a turns ratio from the group of turns ratios consisting of up to about 20:1, greater than about 20:1, and about 17.5:1, respectively.

9. (AsAppealed) The apparatus as recited in claim 24, wherein said apparatus includes at least one amplifier for enabling said enhanced electronic audio signal to be processed into audible sound.

14. (AsAppealed) The method as recited in claim 35, wherein said method further comprises the step of:

processing the enhanced audio signal into audible sound.

15. (AsAppealed) The method as recited in claim 35, wherein said method further comprises the step of:

recording the enhanced audio signal onto a recording medium.

24. (AsAppealed) The apparatus as recited in claim 31, wherein said circuit comprises:
an input stage having a field inducing coil with a plurality of turns through which input audio signals are to be transmitted to set-up an electromagnetic field; and
an output stage having an electromagnetic field receptor coil with a plurality of turns and an output, said receptor coil having a greater number of turns than said inducing coil, said inducing coil and said receptor coil being weakly coupled such that when the input audio signal is transmitted through said field inducing coil, the enhanced audio signal is available at said output.

Serial No. 08/472,876

Docket No. TRD 001 IA

28. (AsAppealed) The method as recited in claim 35, wherin said step of distorting the input audio signal comprises the steps of:

transmitting the input audio signal through a field inducing coil having a plurality of turns, thereby setting up an electromagnetic field; and

weakly coupling the electromagnetic field to an electromagnetic field receptor coil having a greater number of turns than that of the inducing coil to generate the enhanced audio signal in the receptor coil.

31. (Amended After Appeal) An apparatus comprising:

a source of an input audio signal produced from audible sound and having a band of frequencies with a high end and a low end, the audible sound comprising at least one of music, vocals, singing and other such sounds; and

a circuit connected to said source to receive said input audio signal and operatively adapted such that when said input audio signal having a band of frequencies with a high end and a low end is transmitted therethrough, the input audio signal is distorted so as to increase in amplitude as per increasing frequencies from a reference frequency up to an amplitude peak at a high frequency and, ~~after the high frequency, decrease in amplitude as per increasing frequencies toward the high end~~, and the reference frequency separates the band of frequencies into a band of high frequencies and a band of low frequencies, whereby an enhanced audio signal is produced that is recognizable as being said input audio signal enhanced such that audible sound reproduced from the enhanced audio signal exhibits a perceptively improved harmonic quality and sound source separation compared to audible sound reproduced from the input audio signal.

33. (AsAppealed) The apparatus as recited in claim 31, wherein said circuit is further operatively adapted so that when the input audio signal is transmitted therethrough, the input audio signal is further distorted so as to increase in amplitude as per decreasing frequencies from the reference frequency toward the low end and up to an amplitude peak at a low frequency, wherein audible sound reproduced from the enhanced audio signal exhibits more of a perceptively improved harmonic quality and sound source separation compared to audible sound reproduced from the input audio signal.

Serial No. 08/472,876

Docket No. TRD 001 IA

34. (AsAppealed) The apparatus as recited in claim 33, wherein the reference frequency of the output signal produced by said circuit is substantially similar in amplitude to that of the input signal.

35. (Amended After Appeal) A method of enhancing the quality of electronic audio signals, comprising the steps of:

providing an input audio signal having a band of frequencies with a high end and a low end, the input audio signal comprising at least one of an audio signal of music, vocals, singing and other such sounds; and

distorting the input audio signal so as to increase in amplitude as per increasing frequencies from a reference frequency up to an amplitude peak at a high frequency and, after the high frequency, decrease in amplitude as per increasing frequencies toward the high end, and the reference frequency separates the band of frequencies into a band of high frequencies and a band of low frequencies, whereby an enhanced audio signal is produced that is recognizable as being the input audio signal enhanced such that audible sound reproduced from the enhanced audio signal exhibits a perceptively improved harmonic quality and sound source separation compared to audible sound reproduced from the input audio signal; and

processing the enhanced audio signal into audible sound or recording the enhanced audio signal onto a recording medium.

37. (AsAppealed) The method as recited in claim 35, wherein said step of distorting also includes

further distorting the input audio signal so as to increase in amplitude as per decreasing frequencies from the reference frequency toward the low end and up to an amplitude peak at a low frequency, wherein audible sound reproduced from the enhanced audio signal exhibits more of a perceptively improved harmonic quality and sound source separation compared to audible sound reproduced from the input audio signal.

38. (AsAppealed) The method as set forth in claim 35 further comprising the step of:
transmitting the enhanced audio signal from one location to another.

Serial No. 08/472,876

Docket No. TRD 001 IA

40. (AsAppealed) An apparatus comprising:

a source of an input audio signal having a band of frequencies with a high end and a low end, the input audio signal comprising at least one of an audio signal of music, vocals, singing and other such sounds; and

a circuit connected to said source to receive said input audio signal and operatively adapted such that when said input audio signal having a frequency band with a high end and a low end is transmitted therethrough, the input audio signal is distorted so as to increase in amplitude as per increasing frequencies from a reference frequency toward the high end up to an amplitude peak at a high frequency and, after the high frequency, decrease in amplitude as per increasing frequencies toward the high end, and so as to increase in amplitude as per decreasing frequencies from the reference frequency toward the low end and up to an amplitude peak at a low frequency and, after the low frequency, decrease in amplitude as per decreasing frequencies toward the low end, where the reference frequency separates the band of frequencies into a band of high frequencies and a band of low frequencies, and whereby an enhanced audio signal is produced ~~that is recognizable as being said input audio signal enhanced such that audible sound reproduced from the enhanced audio signal exhibits a perceptively improved harmonic quality and sound source separation compared to audible sound reproduced from the input audio signal.~~

43. (AsAppealed) The apparatus as recited in claim 31, wherein said circuit also distorts the input audio signal so that after the high frequency, the input audio signal decreases in amplitude as per increasing frequencies toward the high end.

44. (AsAppealed) The method as recited in claim 35, wherein said step of distorting includes distorting the input audio signal so that after the high frequency, the input audio signal decreases in amplitude as per increasing frequencies toward the high end.

45. (Amended after Appeal) The apparatus as recited in claim 31, wherein said source comprises one of a microphone, a magnetic tape player, an optical disc player, a radio, a television, and a telephone.

Serial No. 08/472,876

Docket No. TRD 001 IA

46. (AsAppealed) The apparatus as recited in claim 31, wherein there is up to a total of only two significant amplitude peaks between the low end and the high end.

47. (AsAppealed) The apparatus as recited in claim 46, wherein there is only one significant amplitude peak between the reference frequency and the high end.

48. (AsAppealed) The method as recited in claim 35, wherein there is up to a total of only two significant peaks between the reference frequency and the high end.

49. (AsAppealed) The apparatus as recited in claim 48, wherein there is only one significant amplitude peak between the reference frequency and the high end.

50. (AsAppealed) The apparatus as recited in claim 40, wherein there is only two significant amplitude peaks between the low end and the high end.

51. (Amended After Appeal) The apparatus as recited in claim 31, wherein ~~said input audio signal comprises at least one of an audio signal of music, vocals, singing and other such sounds~~ the enhanced audio signal is recognizable as being said input audio signal enhanced such that audible sound reproduced from the enhanced audio signal exhibits sound source separation and a perceptively improved harmonic quality compared to audible sound reproduced from the input audio signal.

52. (Amended After Appeal) The method as recited in claim 35, wherein ~~the input audio signal comprises at least one of an audio signal of music, vocals, singing and other such sounds~~ the enhanced audio signal is recognizable as being said input audio signal enhanced such that audible sound reproduced from the enhanced audio signal exhibits sound source separation and a perceptively improved harmonic quality compared to audible sound reproduced from the input audio signal.

Serial No. 08/472,876

Docket No. TRD 001 IA

53. (Amended After Appeal) The apparatus as recited in claim 40, wherein ~~said input audio signal comprises at least one of an audio signal of music, vocals, singing and other such sounds~~ the enhanced audio signal is recognizable as being said input audio signal enhanced such that audible sound reproduced from the enhanced audio signal exhibits sound source separation and a perceptively improved harmonic quality compared to audible sound reproduced from the input audio signal.